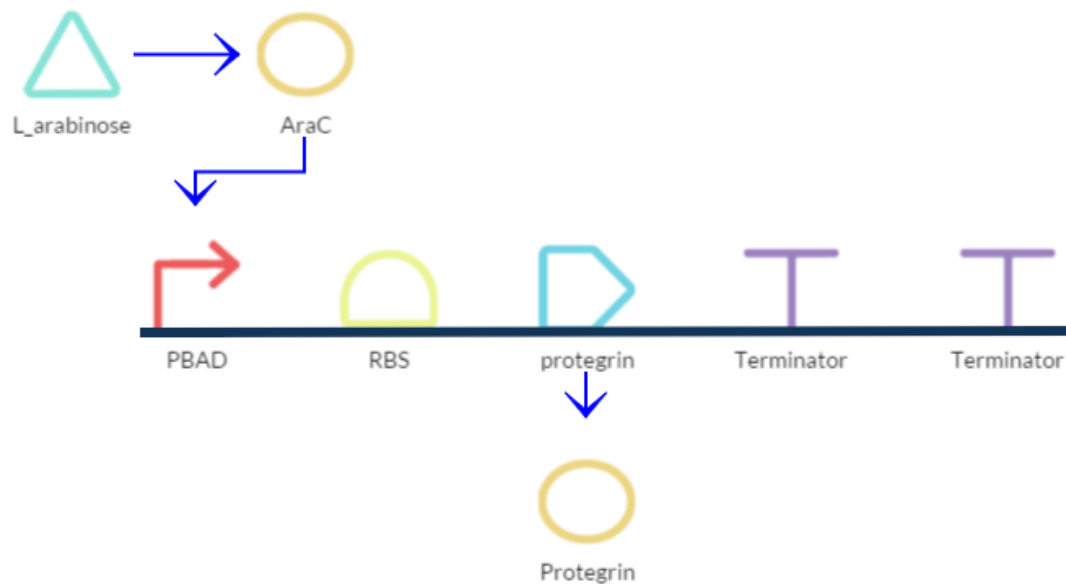


kill switch_2



Formulae for two certain parts

$$\frac{d[\text{AraC}]}{dt} = \alpha_{\text{AraC}} \frac{[\text{L-arabinose}]^n}{K_d + [\text{L-arabinose}]^n} - k_{\text{deg}} [\text{AraC}]$$

$$\frac{d[\text{Protegrin}]}{dt} = \alpha_{\text{Protegrin}} \frac{[\text{NPG}^F]^n}{K_d + [\text{NPG}^F]^n} - k_{\text{deg}} [\text{Protegrin}]$$

$$[\text{NPG}^F] = [\text{NPG}] \frac{[\text{AraC}]^n}{\chi_{\text{PBAD}} K_d + [\text{AraC}]^n}$$

Parameter Table

Symbols	Parameters	Values and Units
n	Hill coefficient	2.26
k_deg	Degradation rate of protein	0.001383 s ⁻¹
Kd	Repression coefficient	1
Alpha_AraC	Translation rate of AraC	0.0527 s ⁻¹
Alpha_PBAD	Translation rate of PBAD	0.368 s ⁻¹
Alpha_Protegrin	Translation rate of Protegrin	0.474 s ⁻¹

Reference: http://2011.igem.org/Team:St_Andrews/switch